Also of relevance for the study of the respective roles of each of the cerebral hemisphere are the not so rare cases of crossed aphasia (more frequent though among children!).
The hypothesis of the « progressive transfer » (in the learning period) from the right hemisphere to the left of some components of the language faculty (together with other functions such as music. . .) will be put forward during the presentation, following the initial writings from Goldberg & Costa at the beginning of the eighties. Thus, the functional specificity of both hemispheres would not be considered as « hardwired » from the crib (and even before) for language, music. . . but would rather be the consequence of the processing (and evoluting) mode applied to such cognitive abilities as language, music, face recognition. . ..
If correct, according to such a view, it would not be language or music that would be localized in the left or the right hemisphere but certain types of cognitive processes, as also shown by case studies of « split brain » patients as well as several studies on nonhuman primates.

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Subtle language in patients with stroke

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Keywords: Language; Pragmatics; Semantics; Subtle language; Stroke
Objective.– Subtle language is the expression of knowledge and know-how about language. It is composed of elements of metalanguage and pragmatics. Left stroke classically results in lexical and syntactic disorders, right stroke in difficulties in discourse and use of metaphors, and frontal stroke in a reduction of verbal fluency and speech incoherence. But subtle language has not been studied as such. Here, we analyzed it in patients with focused hemispheric stroke.
Patients and methods.– We included 44 patients, 21 had left lesions in the territory of the middle cerebral artery (MCA) with mild to moderate aphasia, 14 similar right lesions, and 9 lesions of the territory of the anterior CA (ACA). The analysis included 15 tasks, each with three difficulty levels: definition (1), evocation from definition (2), sentences concatenation (3), synonyms (4), procedural discourse (5), verbal logic (6), polysemy (7), intruders (8), absurd (9), differences (10), proverbs (11), declarative speech (12), antonyms (13), imageable expressions (14) and argumentative discourse (15). Performance was compared to that of 71 matching control subjects (age, education level, gender) in an ANOVA of factors Group, Task and Difficulty ($P < 0.05$).
Results.– The Group effect was significant and interacted with the Task. Left strokes were more penalized in tasks 1, 4, 6, 8, 10, 11, 12 and 13, right ones in tasks 6, 8, 10 and 12, and frontal ones in tasks 3, 6, 8 and 12. Moreover, more difficult items were more affected in patients. Difficulties correlated with language (Montreal Toulouse test), memory (Battery 144) and executive (Trail Making Test) disorders.
Discussion.– The more severe disorders after left-sided lesions *a priori* resulted from lexical-semantic and syntactic difficulties. Right lesions especially impaired tasks addressing similarities-differences between words and concepts. Frontal lesions mainly impaired the interpretation of proverbs and verbal logic. Discourse involvement did not discriminate groups. Each type of disorder reflected the role of corresponding structures in specific cognitive processes.

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Presentation of the cognitive assessment scale for stroke patient (CASP)

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Keywords: Brief cognitive assessment; Stroke; Aphasia
After a stroke, the presence of aphasia significantly disturbs the assessment of other cognitive functions. The rapid screening battery of cognitive impairment tests (MMSE, MOCA, R-CAMCOG, RBANS) are not suitable for aphasics because they contain verbal items. Therefore, the assessment of higher functions in aphasic patients (excluding language) can only be achieved by trained examiners. Similarly, aphasics are routinely excluded from stroke treatment protocols, whether the trials concern the evolution of cognitive function or not. Yet it is possible to assess, at least roughly, all cognitive functions without using language.
We present the Cognitive Assessment for Stroke Patients (CASP). This is a battery of rapid test to assess cognitive functions. They were developed for the detection and quantification of cognitive impairment after stroke and can be used in most patients, including those who lack oral expression and/or have moderate understanding abilities.
Apart from items that analyze language, the CASP was developed from previously validated non-verbal tests and clinical maneuvers recommended by the French College of Neurology Teachers. Six cognitive functions are evaluated : language, praxis, short-term memory, time orientation, spatial neglect/visual-construction and executive functions.
The form of these tests was adjusted so that taking the test would not be hindered by impaired expression, or by unilateral spatial neglect. Its validity in terms of appearance and content were checked in 2011.
Our experience suggests that the CASP can be completed in less than 10 minutes in most patients with motor aphasia and that the use of pictures suitable for aphasic patients was not a problem for patients with spatial neglect. However, the presence of severe disorders of understanding is still insurmountable.
Full validation of the CASP is the subject of a multicenter research protocol. At the conference, we will present the results of the first validation phase, which began in February 2012. Its objective is to compare the CASP to the MMS and MoCA in terms of feasibility and time spent to complete the test.

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Communication disorders in brain damaged post-stroke patients in Benin

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Keywords: Stroke; Communication disorders; Speech therapy; Benin
In western countries, progress has lessened the effects of many communication disorders (CD) [1]. Few data are available from Africa on this issue, particularly from Benin.
Objective.– To assess the impact of CD after stroke in Benin.
Method.– Retrospective descriptive and analytical study based on 563 stroke patients followed in the rehabilitation department of the teaching hospital in Cotonou, January 2006 to December 2010.
Results.– The prevalence of CD was 42.10%. The average age was 57.17 ± 12.62 years. A male predominance was noted ($P = 2.10^{-5}$) with a sex ratio of 1.76. 74.68% were right-handed. For 62.45%, the stroke was ischemic. The left cerebral hemisphere was affected in 68.78%. CD affected oral expression (95.78%), written expression (2.11%), understanding (13.08%)

and reading (0.84%). Social difficulties affected the patients' financial situation, personal relationships and social integration. CD were predominant after left brain damage ($P = 2.10^{-5}$). The type of stroke, sex and age of the patients did not influence the occurrence of CD after stroke. 95.78% of the patients received neuromuscular reeducation but only 5.91% had speech therapy. Outcome was favourable in 14.28%.

Conclusion.– In Benin, post-stroke CD are very common and cause major social problems. The prevalence of CD in an oral culture emphasises the importance of speech therapy in Benin.

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Longitudinal follow-up of severe traumatic brain injury (TBI) patients: What are the evolution patterns between one and four years post-TBI?

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Keywords: Traumatic brain injury; Participation; Prognostic factors; Late outcome

Objectives.– To describe and explain cognitive and professional outcomes at one and four years post-TBI, through a comparative prospective observational study.

Methods.– This study is part of a multicentre inception cohort study of severe TBI adult patients (initial Glasgow Coma Scale score ≤ 8) in the Parisian area, the Paris-TBI study. Patients were consecutively recruited by mobile emergency services between 2005 and 2007. Patients were evaluated one year and four years post-injury by trained neuropsychologists. Evaluations addressed trauma severity and socio-demographic characteristics, global disability (Glasgow Outcome Scale-Extended [GOSE]), cognitive deficiencies (Dysexecutive questionnaire [DEX]), and return to work [1,2].

Results.– Among 504 patients and 250 one-year survivors, 91 had both evaluations. Mean age was 33 ± 14 years, 80% were men. DEX total scores showed a non-significant decrease, and the most frequent behavioural impairments were similar. Global disability on the GOSE had improved, but 13% of the sample had a worse late GOSE score. Employment rates were similar (39% at one year, 40% at four years), but only 26% of the sample had a stable employment at both evaluations, while 11% had lost their activity from one to four years, and 10% had gained a professional activity. More than half of the sample described various professional difficulties related to cognitive sequelae. Several prognostic factors associated with return to work and with employment stability were described.

Discussion.– This comparative study on a prospective long-term study of severe TBI patients showed that, despite an improvement in global disability, cognitive deficiencies remain significant. There were different evolution patterns in terms of participation, and the reasons for this need to be better studied.

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Long-term functional outcome after subarachnoid haemorrhage after rupture of an aneurysm on the anterior communicating artery

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Keywords: Functional outcome; Subarachnoid hemorrhage; Anterior communicating artery; GOSE

Objective.– Aneurysmal subarchnoid haemorrhage (SAH) affects a large number of patients among the working population and is associated with high morbidity and mortality. The purpose of this study was to describe long-term functional outcome after SAH caused by rupture of the anterior communicating artery.

Patients and methods.– This study included patients admitted to a neurointensive care unit between February 2005 and February 2010 after SAH caused by rupture of an aneurysm on the anterior communicating artery, who showed mild to severe disability 6 months after bleeding. Demographic, clinical and biological data were gathered prospectively in the neurointensive care unit. The long-term functional outcome was assessed by the Glasgow Outcome Scale Extended (GOSE). The Dysexecutive questionnaire (DEX) was filled out by the patient and his personal referent.

Results.– Thirty-four patients were included. Among them, 62% of the patients were initially graded as WFNS III-V and 70% were graded as Fischer 4-5. Thirty-five months after their SAH, 21% of the patients had a favoUrable outcome and were able to live independently (GOSE 1-2), 27% presented mild disability (GOSE 3-4), 18% were severely disabled but were able to return home (GOSE 5) and 15% were dependent (GOSE 6). No vegetative state (GOSE 7) was reported. DEX questionnaires showed cognitive and behavioural impairment. 25% of the patients had physical sequellae.

Discussion.– Long-term impairment was observed in 93% of patients who showed mild to severe disability 6 months after aneurysmal SAH caused by rupture of the anterior communicating artery. The GOSE structured interview provides a comprehensive assessment of the patient's ''invisible'' impairment. The DEX questionnaire gives a qualitative assessment on cognitive and behavioural impairment.

Further reading

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Neurocognitive outcome and Academic achievement in adult survivors of childhood medulloblastoma

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Keywords: Medulloblastoma; Childhood; Academic achievement; Diploma

Purpose.– To investigate neurocognitive outcome and academic achievement in adult survivors of childhood medulloblastoma.